

ARSG MEETING SUMMARY

April 28, 2015

ATTENDEES: Peter Butler, Dan Wall, Liz Fagan, Cynthia Peterson, Paula Schmittiel, Lisa Richardson, Buck Skillen, Ray Miller, Bill Simon, Steve Fearn, Rachel Hoffman, Tom Schillaci, Camille Price, Jason Willis, Ron Borrego, Brent Lewis, Pat Maley, Kevin Roach, Terry Turner, Mary Blanchard, Melody Skinner, Ernie Kuhlman, Larry Perino, Mark Esper, Scott Fetchenhier, Ty Churchwell, Todd Hennis, Bob Larson, Kirstin Brown, Bruce Stover, Ray Ferguson, John Ferguson

ANNOUNCEMENTS:

The fifth annual San Juan Mining and Reclamation Conference is going to be in Telluride this year on May 28 & 29. Visit <http://www.mountainstudies.org/sjmrc> for more information. Sponsors include Mountain Studies Institute, Colo. Div. of Reclamation, Mining and Safety, Willow Creek Reclamation Committee, Uncompahgre Watershed Partnership, San Miguel Watershed Coalition, and Telluride Institute.

Because of the timing of the conference and because Memorial Day is May 25th, ARSG is moving the May meeting from the fourth Tuesday of the month to Wednesday, May 27th in the afternoon.

ARSG is planning on doing tour of remediated mine sites in the Upper Animas on Saturday, June 28th. Every few years we such a tour, and they are quite popular. Peter expressed concern that last time we had over 40 people which made travel on small roads and parking a challenge. We could end up with even more participants this time. A couple people suggested using mine tour operators who have four-wheel drive vehicles that carry 10-12 people.

Briefs:

1. Activities Regarding Bullion King – There was a pre-bid tour before the snow began to come down last fall. Bid documents went out in the winter, and a contractor was chosen this spring. There was a shortfall in the budget because of higher than anticipated costs and a miscommunication about available funding. Fortunately another 319 project did not go through this past year, and CDPHE was able to add about \$70K more to the Bullion King project. This is a difficult project because of its location, and Kirstin Brown with DRMS has spent a lot of time pulling it together.
2. Activities Regarding Red & Bonita and Gold King – EPA plans to install the bulkhead in the R&B and open up the Gold King this summer. There will be a much more detailed discussion of the plans at the next ARSG meeting in May.
3. Good Samaritan Legislation – Trout Unlimited has provided funding for their staff (mostly Ty Churchwell) to organize a grassroots campaign to promote a pilot program Good Samaritan bill for the counties that make up the San Juan mountains. People seemed very supportive of TU taking on this role. Both Sen. Bennett and Rep. Tipton are interested in sponsoring the legislation which would look very similar to bills introduced in recent years (an amendment to the Clean Water Act to allow permitting for Good Samaritan projects.) ARSG is keenly interested in helping craft the wording in the legislation.
4. Past Spring Sampling of Animas above Silverton – Lisa Richardson with BLM took weekly samples at six locations from the Howardsville gage to A68 in March and April. This is the time period when metal concentrations at A68 reach their highest levels and most of the metal

load enters the river below the Howardsville gage. The idea behind the sampling to further refine where the load is coming in. EPA is processing the samples.

Topics:

5. Draft EPA Environmental Risk Assessment - EPA has completed its draft Baseline Ecological Risk Assessment (BERA) for the upper Animas River basin. The agency has committed lots of time and resources developing this document over the past several years. They collected water quality, sediment, pour water, and fish tissue samples at a number of locations all the way down through Durango. They also conducted their own acute toxicity testing of aquatic species in the lab. They are willing to continue taking comments on the document. The BERA is a necessary step if EPA or BLM decide to apply for significant funding through CERCLA for future remediation. The study did not examine human health risks. Nor does it examine if and how metal concentrations might be reduced.

A large portion of the afternoon meeting was devoted to the document. Dan Wall with EPA gave a detailed presentation, and there were a number of questions. The study assessed risks to birds and mammals due to high metal concentrations and found those to be minimal. The locations where metals impacted aquatic life were not surprising. Nor were most of the results. The study did give a little higher emphasis to the impact of aluminum than ARSG has previously recognized.

6. EPA Sampling Plan for Sampling above Howardsville this Summer – EPA discussed its sampling plans for the Animas River watershed above Howardsville to the headwaters. They have provided a map of potential sampling sites but have not yet completed the sampling and analysis plan (SAP). (We can forward the maps if someone would like them.) Where EPA would like to sample on private property, it has been contacting landowners. Although they are trying to finalize plans, EPA is still willing to take comments. It was suggested at the meeting that the Senator should be sampled because of its high levels of manganese.

A question was asked why EPA wanted to sample above Howardsville when both USGS and ARSG have done extensive sampling in the area in the past, and there has been little land disturbance and activity since then. EPA responded that much of that sampling is almost 20 years old and that they have their own processes and procedures that they need to follow to be able to use the data. The goal is to determine if any removal or remedial projects are worthwhile doing farther up in the watershed. (Removal projects are short-term such as remediating a mine dump or installing a bulkhead, whereas remedial projects tend to be more costly and require long-term operation and maintenance, such as treating mine drainage.)

EPA also discussed doing fish habitat studies to determine if metal concentrations could be lowered, would there be habitat to support fish. In other words, are the metals or the habitat the limiting factor.

7. Draft Sunnyside Gold Remedial Investigation Plan – This topic was deferred to the evening meeting.
8. Updated Analysis of Water Quality at the Gages – This topic was deferred to the evening meeting.

Evening Meeting at Town Hall:

ATTENDEES: Peter Butler, Dan Wall, Liz Fagan, Cynthia Peterson, Paula Schmittiel, Buck Skillen, Ray Miller, Bill Simon, Steve Fearn, Rachel Hoffman, Camille Price, John Poole, Kevin Baldwin, Pete Maisel, Tim Cutter, Brad Dodd, Lisa Richardson, Tom Schillaci, Jason Willis, Brent Lewis, Pat Maley, Kevin Roach, Terry Turner, Mary Blanchard, Melody Skinner, Peter Miesler, Pete McKay, William Tookey, Chris Tookey, Joe Lewandowski, John Ott, Marcie Bidwell, Ernie Kuhlman, Larry Perino, Mark Esper, Scott Fetchenhier, Ty Churchwell, Todd Hennis, Bob Larson, Ray Ferguson, John Ferguson

More presentation format. 6:30 – 8:30 pm.

1. Updated Analysis of Water Quality at the Gages – Peter showed graphs of water quality concentrations at the four gages around Silverton and Bakers Bridge. The graphs display concentrations for each month over a several year period. The periods are 1991-mid 1996 which is pre-bulkhead in the American Tunnel; 1998-2001 which is when Sunnyside was treating Cement Creek, 2007-11 which is after the adits in upper Cement Creek began fully flowing; and 2012-14 which is the most recent time period.

Mineral Creek continues to show improvement. In 2012-14 all metals except iron and aluminum are near or meeting table value standards (TVS). During the low flow time period; zinc, cadmium, and copper concentrations have dropped by 50%-70% since the 1990's. Iron and aluminum have been unaffected by remediation (mostly natural sources) and remain far above TVS for most of the year.

In Cement Creek, metal concentrations became much worse in the late 2000's from the 1990's because of the large, untreated discharging adits in upper Cement Creek. However, in 2012-14, there were improvements in water quality from the previous time period. These improvements may be a result of much lower flows from the Gold King, and possibly less flow from the Red & Bonita. There was substantially less precipitation over the last three years compared to 2007-11. This may have lowered the water table near the Gold King and reduced the flows. It is also possible that when the American Tunnel bulkheads raised the water table, saturating mineralized areas that some metals flushed out easily. Now the most readily available metals are gone and less available ones are moving through the system.

Water quality in the Animas River above Silverton has generally improved from the 1990's to the 2000's with the remediation done in that watershed. There are still high peak concentrations in March and April, but that peak is lower now than in the 1990's. Water quality doesn't show any appreciable difference over the last three years. The one exception to these trends is manganese concentrations which have much higher peak levels in the spring now than in the first time period (1991-mid 1996). We don't have a good explanation for this change.

Overall, metal concentrations below Silverton have gotten worse in the late 2000's relative to the 1990's. The improvements in the Animas River above Silverton and in Mineral Creek have been overwhelmed by the degradation of Cement Creek. The improvements in Cement Creek over the last three years caused some improvements in the Animas below town, but it is still clearly worse than in the 1990's.

Downstream at Bakers Bridge, zinc concentrations have improved in the spring from the 1990's to the late 2000's, but have gotten worse during the fall months. Zinc, cadmium, and aluminum TVS are all exceeded in recent years. Iron TVS is barely exceeded. There is less data at Bakers Bridge than at the four gages near Silverton.

2. Draft Sunnyside Gold Remedial Investigation Plan – Larry Perino with Sunnyside Gold Corp. (SGC) gave a presentation on draft investigative work plans to analyze the potential metal

loading, if any, from the Mayflower tailings ponds to the Animas River. A set of agencies (EPA, BLM, CDPHE) had initially requested SGC to investigate metal loading at the Mayflower tailings and the American Tunnel. The agencies have asked SGC to hold off on the American Tunnel portion until the impacts of the bulkhead in the Red & Bonita are realized and better understood.

SGC will gather known information on the tailings ponds construction and remediation; gather and analyze data from USGS, EPA, and ARSG on water quality, aquatic biota, and sediments; and collect its own data. The collection efforts include synoptic sampling in early May during the rising limb of the hydrograph and in the fall during low-flow. EPA offered to process split samples with SGC. Peter suggested that there should be investigations in March-April when metal concentrations peak each year at A68. Data from 2014 showed that 85%+ of the metals of concern measured at A68 enter the river between the Howardsville gage and A68 during this time period.

SGC will further investigate the top covering and drainage on the surface of the remediated tailings ponds; will drill into the tailings ponds to retrieve core samples for analyses of metal content, porosity and hydroconductivity; and develop cross-sections of the ponds. They will investigate the performance of the reactive barrier down gradient of tailings pond #4. Based on various analyses, SGC plans to install monitoring wells to determine groundwater flux as well.

Larry also presented a powerpoint on past remediation of the tailings ponds. The ponds slopes were re-graded to reduce slope, and the tops were graded to run water off the back to a ditch to carry surface water around the ponds. Sixteen inches of subsoil was placed on ponds 1, 2, and 3; pond #4 is covered with two feet. All surfaces were vegetated. The first three ponds were remediated in the early 1990's and pond #4 was completed in the 2000's.

3. Draft EPA Environmental Risk Assessment – This was a short summary of what was discussed at length in the afternoon for the benefit of those who didn't attend the afternoon meeting.

Towards the end of the evening there were comments from several individuals. One said that SGC's plan didn't go far enough and that the company was whitewashing the real problems. Another wondered how different entities managed to stop having to treat water at Gladstone and if ARSG couldn't fix the issue, why were people fighting EPA. One more asked why some much effort was being undertaken to improve the fishery below Silverton. He was concerned that people's livelihoods could be affected and that the cleanup process seemed like a witchhunt.

Possible Agenda Items for May Meeting:

Red & Bonita and Gold King
S. Mineral and Durango Macroinvertebrate Studies
Questions regarding the ARSG database
Upcoming WQCC Hearings regarding Animas
EPA Sampling above Howardsville
June Mine Site tour
Koehler Bulkhead Valve